

The embodiments of the invention in which an exclusive property or privilege is claimed are as follows:

1. A reduced glare, conductive coated panel comprising:

a transparent substrate having a first surface and a second surface;

a first, multilayer, antiglare, interference stack disposed on said first surface of said substrate, said first stack comprising a plurality of transparent, thin film layers; a second, multilayer, antiglare, interference stack disposed on said second surface of said substrate, said second stack comprising a plurality of transparent, thin film layers;

the first of said layers in said first stack positioned on said first surface and corresponding to the first of said layers in said second stack which is positioned on said second surface, the second of said layers in said first stack positioned on said first layer and corresponding to the second of said layers in said second stack which is positioned on said first layer of said second stack, at least one of said layers of said first stack having a thickness greater than the thickness of said corresponding layer of said second stack on said second surface; and

a transparent conductive coating on at least one of the thin film layer of said first stack which is spaced farthest away from said first surface and the thin film layer of said second stack which is spaced furthest away from said second surface;

whereby visible light transmission through said coated panel is increased as compared to said substrate coated only with said transparent conductive coating.

2. The coated panel of claim 1 wherein said transparent substrate is glass.

3. The coated panel of claim 1 wherein said transparent substrate is selected from the group consisting of glass and plastic.

4. The coated panel of claim 1 wherein each of said first and second thin film stacks includes a third transparent thin film layer, said third layer of said first stack positioned on said second layer of said first stack and corresponding to said third layer of said second stack which is positioned on said second layer of said second stack.

5. The coated panel of claim 4 wherein each of said layers of said first and second stacks has a refractive index, the refractive index of said second layer of each of said first and second stacks being greater than the refractive index of the other layers in said respective first and second stacks.

6. The coated panel of claim 5 wherein the refractive index of said third layer of each of said first and second stacks is less than the refractive index of the other layers in said respective first and second stacks.

7. The coated panel of claim 6 wherein the material composition of said corresponding layers in each of first and second stacks is the same.

8. The coated panel of claim 7 wherein said first layers in each of said first and second stacks are formed from a combination of silicon dioxide and titanium dioxide, each of said first layers having a refractive index at the sodium D line in the range of from about 1.5 to about 2.0.

9. The coated panel of claim 7 wherein said second layers in each of said first and second stacks are formed from titanium dioxide, said second layers each having a refractive index at the sodium D line of at least about 2.0.

10. The coated panel of claim 7 wherein said third layers in each of said first and second stacks are formed from silicon dioxide, said third layers each having a refractive index at the sodium D line of less than about 1.5.

11. The coated panel of claim 4 wherein each of said layers of said first and second stacks has a refractive index, the refractive index of said third layer of each of said first and second stacks is less than the refractive index of the other layers in said respective first and second stacks.

12. The coated panel of claim 1 wherein each of said layers of said first and second stacks has a refractive index, the refractive index of said second layer of each of said first and second stacks being greater than the refractive index of the other layers in said respective first and second stacks.

13. The coated panel of claim 1 wherein the material composition of said corresponding layers in each of first and second stacks is the same.

14. The coated panel of claim 1 wherein said transparent conductive coating is on the thin film layer of said first stack which is farthest from said first surface.

15. The coated panel of claim 1 wherein said transparent conductive coating is on the thin film layer of said second stack which is farthest from said second surface.

16. The coated panel of claim 1 wherein the thin film layer of each of said first and second stacks which is farthest from its respective first and second surface includes a transparent conductive coating thereon.

17. The coated panel of claim 1 wherein each of said layers of said first stack has a thickness greater than the thickness of said corresponding layer of said second stack on said second surface.

18. A reduced glare, conductive coated panel comprising:

a transparent substrate having a first surface and a second surface;

a first, transparent, interference thin film disposed on said first surface of said substrate;

a second, transparent, interference thin film disposed on said second surface of said

5 substrate;

said first thin film corresponding to but having a thickness different from said second thin film; and

a transparent conductive coating on at least one of said first thin film and said second thin film;

10 whereby visible light transmission through said coated panel is increased compared to said substrate coated only with said transparent conductive coating.

19. The coated panel of claim 18 including a third thin film disposed on said first thin film and a fourth thin film disposed on said second thin film, said third thin film corresponding to but

having a thickness different from said fourth thin film; said transparent conductive coating being disposed on at least one of said third and fourth thin films.

20. The coated panel of claim 19 wherein said transparent conductive coating is on said third thin film.

21. The coated panel of claim 19 wherein said transparent conductive coating is on said fourth thin film.

22. The coated panel of claim 19 wherein each of said third and fourth thin films includes a transparent conductive coating thereon.

23. The coated panel of claim 19 including a fifth thin film disposed on said third thin film and a sixth thin film disposed on said fourth thin film, said fifth thin film corresponding to but having a thickness different from said sixth thin film; said transparent conductive coating being disposed on at least one of said fifth and sixth thin films.

24. The coated panel of claim 23 wherein said transparent conductive coating is on said fifth thin film.

25. The coated panel of claim 23 wherein said transparent conductive coating is on said sixth thin film.

26. The coated panel of claim 23 wherein each of said first, third and fifth thin films is thicker than said second, fourth and sixth thin films.

27. The coated panel of claim 26 wherein said transparent conductive coating is on said fifth thin film.

28. The coated panel of claim 26 wherein said transparent conductive coating is on said sixth thin film.

29. The coated panel of claim 26 wherein each of said fifth and sixth thin films includes a transparent conductive coating thereon.

30. The coated panel of claim 23 wherein each of said fifth and sixth thin films includes a transparent conductive coating thereon.

31. The coated panel of claim 18 wherein said transparent conductive coating is on said first thin film.

32. The coated panel of claim 18 wherein said transparent conductive coating is on said second thin film.

33. The coated panel of claim 18 wherein each of said first and second thin films includes a transparent conductive coating thereon.

34. A method for making a reduced glare, conductive coated panel comprising:

providing a transparent substrate having a first surface and a second surface;

forming a first transparent thin film layer on said first surface and a first transparent thin film layer on said second surface by dipping said substrate in a liquid solution of a precursor of a material for said first transparent thin film layers while maintaining said substrate at an angle to the vertical whereby said first layer on said first surface has a thickness greater than the thickness of said first layer on said second surface; and

applying a layer of a transparent electrically conductive coating over at least one of said first layer on said first surface and said first layer on said second surface.

35. The method of claim 34 including firing said dipped substrate at an elevated temperature to complete transformation of said as-dipped layers into said transparent thin films prior to said applying said layer of transparent electrically conducting coating in order.

36. The method of claim 34 wherein said angle is between about 5 and 25 degrees.

37. The method of claim 34 including forming a second transparent thin film layer on said first layer on said first surface and a second transparent thin film layer on said first layer on said second surface by dipping said substrate in a liquid solution of a precursor of a material for said second transparent thin film layers while maintaining said substrate coated with said first layers at an angle to the vertical, and applying said transparent electrically conductive coating to said second transparent thin film layer on at least one of said first surface and said second surface subsequent to forming said second transparent thin film layer on said first layer on said first surface and said second transparent thin film layer on said first layer on said second surface.

38. The method of claim 37 wherein said angle for dipping said coated substrate to form said second layers is between about 5 and 25 degrees.

39. The method of claim 37 including applying a transparent electrically conductive coating over each of said second layer on said first surface and said second layer on said second surface.

40. The method of claim 34 including forming a third transparent thin film layer on said second layer on said first surface, and a third transparent thin film layer on said second layer on said second surface by dipping said substrate in a liquid solution of a precursor of a material for said third transparent thin film layers while maintaining said substrate coated with said first and second layers at an angle to the vertical, and applying said transparent electrically conductive coating to said third transparent thin film layer on at least one of said first surface and said second surface subsequent to forming said third transparent thin film layer on said second layer on said first surface and said second layer on said second surface.

41. The method of claim 40 wherein said angle for dipping said coated substrate to form said third layers is between about 5 and 25 degrees.

42. The method of claim 40 including applying a transparent electrically conductive coating over each of said third layer on said first surface and said third layer on said second surface.

43. The method of claim 42 including applying said transparent electrically conductive coating by vacuum deposition.

44. The method of claim 43 wherein said vacuum deposition comprises sputtering.

45. The method of claim 40 including applying said transparent electrically conductive coating by vacuum deposition.

46. The method of claim 45 wherein said vacuum deposition comprises sputtering.

47. The method of claim 34 including applying a transparent electrically conductive coating over each of said first layer on said first surface and said first layer on said second surface.

48. The method of claim 34 including applying said transparent electrically conductive coating by vacuum deposition.

49. The method of claim 48 wherein said vacuum deposition comprises sputtering.

50. The method of claim 34 wherein said dipping said substrate in the liquid solution includes withdrawing said substrate from the liquid solution in a direction parallel to the direction in which said substrate extends when maintained at said angle to the vertical.